

WHAT IS CLAIMED IS:

1. A method for manufacturing a catheter comprising an inner tube forming a first lumen and an outer tube arranged coaxially with the inner tube, a second lumen being formed between the outer surface of the inner tube and the inner surface of the outer tube, comprising steps of:

inserting a mandrel for retaining the first lumen into the inner tube; and

applying an ultrasonic horn to the outer surface of the outer tube for oscillating ultrasonic waves, thereby fusion bonding the inner surface of the outer tube to the outer surface of the inner tube.

2. The method according to claim 1, wherein each of the inner tube and the outer tube is made of a polymer material.

3. The method according to claim 2, wherein each of the inner tube and the outer tube is made of the same polymer material.

4. A catheter, comprising:

an inner tube forming a first lumen and having an opening at a distal end;

an outer tube arranged coaxially with the inner tube and having a distal end positioned at the proximal side to the distal end of the inner tube, a second lumen being formed between the outer surface of the inner tube and the inner surface of the outer tube;

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a deflated or folded inflatable member having a distal end portion secured to the inner tube and having a proximal end portion secured to the outer tube, and being in communication with the second lumen at the proximal end portion;

a first port having an opening in communication with the first lumen; and

a second port having an opening in communication with the second lumen;

wherein a part of the inner surface of the outer tube is fusion bonded to a part of the outer surface of the inner tube by the method defined in claim 1.

5. The catheter according to claim 4, wherein, in the bonded portion between the inner surface of the outer tube and the outer surface of the inner tube, only that region which corresponds to at most 90% of the wall thickness of each of the outer tube and the inner tube from the bonded surface is thermally deformed.

6. The catheter according to claim 4, wherein the bonded portion between the inner surface of the outer tube and the outer surface of the inner tube is formed in 5 to 95% of the circumferential outer surface of the inner tube.

7. The catheter according to claim 4, wherein the bonded portion between the inner surface of the outer tube and the outer surface of the inner tube is formed

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over a length of 0.3 to 30 mm in the axial direction.

8. The catheter according to claim 4, wherein each of the inner tube and the outer tube is made of a polymer material.

5           9. The catheter according to claim 8, wherein each of the inner tube and the outer tube is made of the same polymer material.

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